ENGR 330

Engineering Service Project

Final Report

Volunteer Tracking Options

For

Habitat for Humanity,

White County, Arkansas Affiliate

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**Abstract:**

Most of the labor for building Habitat for Humanity homes and for working at the ReStore in   
Searcy, AR is provided by volunteers. The current systems for tracking these volunteers could be greatly improved. The purpose of this report is to summarize the options for improving the volunteer tracking system and suggest a solution. It was determined that the system must be practical for use, provide easy organization, and be user-friendly. The options for this explored included paper-based, computer-based, and smart-phone based systems for tracking volunteers. The advantages and disadvantages of each option were analyzed to find the solution that would best meet the needs of the organization. In the end, it was concluded that the smart phone-based application would be the best option because of its versatility, compatibility and portability. However, the other options are still viable to be considered by those who will be working with the volunteer tracking. Ultimately, more communication with those who will be working with the volunteer tracking most as well as an exploration of the feasibility of each design and the willingness of the users to adapt will be required before making any concrete decisions or implementing any solutions.

**Introduction:**

Habitat for Humanity is an organization that partners with communities and families to help provide decent affordable housing to be sold to those in need. Part of the funding for Habitat for Humanity comes from the sale of new and gently used appliances, furniture, and building supplies at the Habitat for Humanity Restore. This report focuses specifically on the White County Affiliate of Habitat for Humanity and the ReStore in Searcy, Arkansas.

Most of the labor for both building the houses and working at the ReStore is provided by volunteers. However, there is currently no system for tracking volunteers at the ReStore, and only a very simple one being used at the builds. The current system at the build sites involves a sheet on site that volunteers fill out to sign in, and a release form and information sheet that they must complete before beginning work. Thus, the purpose of this project was to explore other options that could be used to track volunteers for both the ReStore and at build sites that would be practical for use, easily organized, user friendly.

**Objectives and Specifications:**

The objectives of this project were to explore and recommend options for tracking volunteers at the ReStore and at build sites for the White County Habitat for Humanity Affiliate. The initial goal was to provide an electronic form of volunteer tracking, but other options were also explored. A summary and elaboration on the main specifications follows:

* Options must be practical for use.
* Options must provide easy organization.
* Options must be user-friendly.

First, the options had to be practical for use. The goal was to find or create a system that would keep track of the same important information or even more than the current system. The current system being used for the build sites keeps track of a volunteers name, address, phone number, email, group they are with (if applicable), whether they are there for a half day or full day, and whether it is ok to use their photo. Thus, the new system would be expected to keep track of at least this information. Other information that the system should keep track of hours logged, locations worked, pertinent medical information, and jobs performed (to save time by not teaching them something they already know how to do). It could also keep track of how many hours of sweat equity the home owners still need to contribute. Having a system to keep track of all this information would make it easier to keep track of all pertinent information about volunteers, recognize those who have contributed for a long time, and speed up response in any medical situations.

The options also had to provide easy organization. In order to be effective and continue to be used, a volunteer tracking system must be organized and easy to keep organized. The organization of the system should be relatively self-explanatory so that any user of the system can see where to input information that needs to be recorded, how to find the information they need, and how to add to or edit the information there. It should be evident which information goes where, and the pattern of organization should be clearly seen upon viewing the system.

Finally, the options had to be user friendly. It is unknown who will be involved in the use of the system, so the options provided must cater to a wide range of users. For example, volunteers at build sites and the ReStore will provide the information initially, so the part of the system that they interface with must be easily understood and easy to fill out. This part of the system needs to be simple and easy for the average person to figure out without instruction. If there are other parts of the system, these also need to be easy to understand and work with. Some instruction and or training may be necessary, but it should be kept to a minimum. This will reduce the amount of time needed to get acquainted with the system and implement it.

**Conceptual Designs:**

There were three categories of designs considered. The first was a simple paper system, somewhat like the one currently being used for build sites. The second was a computerized system, using a well-known program such as excel to keep track of volunteers. And, the last was a smart phone based system that would easily interface with a desktop or laptop computer as well. Also considered was whether an electronic system could be used for initially collecting the information from the volunteers or whether paper would need to still be used.

The specific paper-based design considered would involve collecting data on site as is done now, possibly with more data collected depending on what is determined to be most important. From there, the current filing system for the build site logs would need to be explored and possibly improved upon. Those working with it and using it would be closely involved in the design process to make it work.

The computer-based design considered would involve the use of Excel from Microsoft Office. A database would be formed to keep track of the same information for each volunteer and options would be implemented for organizing and searching the data, as well as keeping track of things like total hours. If this system were used, volunteers could check a box on the sign in sheet indicating if they had volunteered before in order to avoid duplicates in the system, or it could be set up so that the person recording the information to the computer would search the database each time a name was put in to avoid duplicate entries.

The specific smart phone-based design considered involved an android application called Memento Database. This program would interface well with Excel via Google Documents so that data could also be recorded and edited on a desktop or laptop computer as well as on a smart phone. The information would still be collected on site using paper, but in the future could be directly entered into a smart phone as people showed up to the site, reducing the time needed for transferring data from paper to the electronic database. The application allows the creation of multiple databases called libraries. Only one library would be needed for keeping track of the volunteers. However, separate databases could be created for the build sites and the ReStore if desired. As a library is created, different data fields are chosen and entered into the program. These data fields allow the same information to be kept track of for each volunteer. Some fields, such as the volunteer’s name, can be specified as a required field so that that information is not left out for any of the records. Once the database with its libraries is created, it is easy to add or edit entries either on a smartphone or on a Google Documents account with which the database is synchronized. This option would require someone to learn how to use the database on the phone, but it is very easily figured out in probably ten minutes or so, and instruction can be offered by the system designer/ writer of this report.

**Findings and Results:**

Advantages and disadvantages were investigated for each of the three main options. The advantages of a paper-based system include ease of use, no need for someone to transfer data from paper to an electronic form, and less adjustment being required. A paper-based system would probably be the least expensive (at least in terms of time) to start up because there is already one in place for the build sites and because reading a sheet of paper to provide information does not require training, which takes time. The disadvantages of a paper-based system include that it is harder to keep organized, entries cannot be easily edited, and it makes it difficult to keep track of total hours and other information about volunteers.

The advantages of an electronic system include easy and flexible organization of the information about volunteers, capability of keeping track of more information, and better accessibility of data. The disadvantages of an electronic system include the cost in time and the need for people to learn how to use it. The time it takes to get the system updated with all the current volunteer information, the time for teaching people to use the system, and the time required for regularly entering the data to the system are all time costs to consider. Another cost could include the software and or computer if one is not already available for this use.

The advantages and disadvantages of a smart phone-based system are the same as those of an electronic system with the added benefits of versatility and portability. Adding smart phone capability to the design of an electronic system would take very little extra work and would add many options and room for growth of the system in the future. It would give the option of accessing and editing the volunteer information on the go, which would be especially useful in emergency medical situations. One risk however is the possibility that the android market would stop offering the application. However, in that case, the information would still be accessible with Excel via Google Documents, so that possibility does not pose a major concern.

**Conclusions:**

Overall, a paper-based system has the lowest initial cost and would take the least effort to implement simply because it is what is currently in use. However, a smart phone-based system would meet the specifications best, be the most versatile, and offer the most room for growth. Because the smart phone-based system combines the benefits of the computer based system with its own portability and flexibility, it appears to be the best option if those in charge are willing and able to take the time to make it happen. The system is very practical because it users to enter and access information using smart phones which are becoming increasingly popular, but does not limit the entering and accessing data to only smart phones. Instead, it allows the combined use of computers and smart phones to access the database in whichever way is most efficient and effective at the time. It also provides easy organization because a computerized database can be searched and edited very easily. Volunteer data can be entered via a simple interface and retrieved with a simple search or sort of the records in the database. Finally, the system is user-friendly because not only is the smart phone application easy to use for those who want to access the database that way, but it also allows the use of Excel with the same functionality, which is a very commonly known program. Also, when the database is set up with the android application and synchronized with Excel via Google Documents, a database interface is created in the Excel portion, which is even easier to work with than Excel is on its own.

In conclusion, the recommendation is to consider the option of implementing the smart phone-based system if possible. However, the other options explored are still viable as well. Once a decision is made whether to move forward with one of these systems, more can be done to work out the details and implement the solution.

**References:**

**Contacts:** Goldinger, Jordan. Harding Student and ReStore worker.

Hawthorne, Leigh Ann. Affiliate Administrator, Habitat for Humanity of White County

**Websites:** Habitat for Humanity of White County, Arkansas. www.habitatwhitecoar.org